

**Amendments to the Specification:**

Please amend the specification as follows:

Please replace the last paragraph starting at page 17, line 21 through page 18, line 4, with the following rewritten paragraph:

Subsequently, the silicon substance is subjected to RCA cleaning procedure to remove organic matters, particles, and metals from the device region 302, as illustrated in Fig. 3 (b). As known in the art, the RCA cleaning procedure may involve RCA Standard-Clean-1 (abbreviated to SC1) procedure and RCA Standard-Clean-2 (abbreviated to SC2) procedure. Specifically, the SC1 procedure uses a mixture of hydrogen peroxide, ammonium hydroxide, and water heated to a temperature of about ~~[[70°C]]~~ 70°C while the SC2 procedure uses a mixture of hydrogen peroxide, hydrochloric acid, and water heated to a temperature of about ~~[[70°C]]~~ 70°C. The SC1 procedure is effective to dissolve films and to remove Group I (particles) and Group II (organic substances) while the SC2 procedure is effective to remove metals that are not removed by the SC1 procedure.

Please replace the last paragraph starting at page 20, line 27 through page 21, line 3, with the following rewritten paragraph:

Under the circumstances, the silicon substance 403 is heated to about ~~[[400°C]]~~ 400°C by the heater mechanism while the vacuum chamber 401 is evacuated into a vacuum state. According to the experiments, when the silicon substance 403 is kept at a temperature between 200 and ~~[[550°C]]~~ 550°C, similar results have been obtained.

Please replace the second paragraph starting at page 27, line 14 through line 21 with the following rewritten paragraph:

Referring to Fig. 7, description will be made about a method of manufacturing a semiconductor device, according to a second embodiment of this invention. Instead of the (110) silicon surface which is used in the first embodiment and which is formed by the epitaxial growth, a silicon surface obtained by inclining the (110) silicon surface by ~~[[8°]]~~ 8° in a direction of <100> is used in the second embodiment and may be said as (551) silicon

surface. In addition, it is to be noted that a silicon oxynitride film is used as the gate insulation film in the second embodiment.

Please replace the second paragraph starting at page 28, line 10, with the following rewritten paragraph:

Subsequently, a self-sacrifice oxide film 703 is formed on the device region 702 of the (551) silicon surface at a temperature between ~~[[300°C]]~~ 300°C and ~~[[500°C]]~~ 500°C in an oxygen radical atmosphere, as shown in Fig. 7 (c). The self-sacrifice oxide film 703 is removed in a process shown by Fig. 7 (d). Both the processes illustrated in Figs. 7 (c) and (d) may be collectively called a flattening process of flattening the silicon surface of the device region.

Please replace the second paragraph starting at page 29, line 13, with the following rewritten paragraph:

The gate insulation film of silicon oxynitride can be formed by the use of the microwave excitation plasma apparatus illustrated in Fig. 4. Specifically, such a silicon oxynitride film can be formed in a manner to be mentioned below. At first, the vacuum chamber 401 illustrated in Fig. 4 is evacuated and Kr gas, O<sub>2</sub> gas, and NH<sub>3</sub> gas are filled through the shower plate 402 into the vacuum chamber 401 to a pressure of 1 Torr. On the support member 404 with the heater member, the (551) silicon substance is located and is heated to a temperature of ~~[[400°C]]~~ 400°C. The temperature may fall within a range between ~~[[200°C]]~~ 200°C and ~~[[550°C]]~~ 550°C.

Please replace the last paragraph starting at page 31, line 19, through page 32, line 2, with the following rewritten paragraph:

A method of improving flatness will be described as a third embodiment and is specified by the use of wet oxidation. At first, a (110) silicon substance is prepared which has a silicon surface of a comparatively large roughness. The silicon substance is subjected at a first step to wet oxidation under the conditions of a temperature of ~~[[1000°C]]~~ 1000°C and flow rates of H<sub>2</sub>=1slm and O<sub>2</sub>=1slm and, as a result, a silicon oxide film is deposited to a

thickness of 3000 angstroms on the silicon surface. The silicon oxide film is etched back to a thickness of 0 to 2500 angstroms by the use of H<sub>2</sub>O solution including HF at a second step. Thereafter, the first and the second steps are repeated twice and finally the silicon oxide film is completely removed by a mixed solution of HF and HCl which is mixed with a mixed rate of 1:19 and which is not higher than 1 in pH.

Please replace the last paragraph beginning on page 33, line 19 through page 34, line 6, with the following rewritten paragraph:

Next, a method of maintaining and improving flatness by the use of a medical solution or fluid will be described as a fourth embodiment of this invention. As mentioned before, the RCA cleaning has been very often used to clean the silicon surface. In addition, it has been also found out that a silicon surface is roughened during the SC1 procedure of the RCA cleaning. This is because the SC1 procedure is carried out by the mixture of hydrogen peroxide, ammonium hydroxide, and water heated to a temperature of about ~~[[80°C]]~~ 80°C and, as a result, Si-Si bonds are attacked by OH ions during the SC1 procedure and torn at weak portions. Specifically, in the SC1 procedure, oxidation of the silicon surface due to the hydrogen peroxide proceeds simultaneously with Si-O etching due to OH ions and etch back due to Si-Si etching. This implies that the SC1 procedure is effective to remove the particles and organic contamination but roughens the silicon surface as a side effect. In order to decrease roughness of the silicon surface due to the SC1 procedure, it is preferable to dispense with alkaline cleaning.

Please replace the first full paragraph starting at page 34, line 7, with the following rewritten paragraph:

Taking the above into consideration, a cleaning method is disclosed in Japanese Unexamined Patent Publication No. Hei ~~11-057635~~ 11-057636 (namely, 057636/1999) and includes no alkaline cleaning. It is to be noted that the disclosed cleaning method has five stages and is not less than the RCA cleaning in an ability of removing particles, organic contamination, and metal contamination.

Please replace the second full paragraph starting at page 40, line 7, with the following rewritten paragraph:

In the experiment, ozone dissolved by 5 ppm in ultrapure water has been used as the ozone water and processing has been carried out in a room temperature  $[(23\text{°C})]$   $(23\text{°C})$  in connection with the (100), (110), and (111) silicon substances, like in Fig. 12. The results of processing the (100), (110), and (111) silicon substances are depicted by gray dots, black dots, and white dots, respectively. As are apparent from Fig. 14, oxidation has proceeded, without depending on the plane orientations (100), (110), and (111), which shows that isotropic oxidation has been done by using the above-mentioned ozone. In addition, it is readily understood from Fig. 14 that the thickness of each oxide film has been substantially saturated or reached to about 18 angstroms after the ozone processing has been carried out only for thirty seconds. Thereafter, the thickness of each oxide film is kept unchanged.

Please replace the second full paragraph starting at page 41, line 13, with the following rewritten paragraph:

According to the report of Kazuo Sato, et al (described in "Sensors and Actuators 73 (1999)" (pages 122 to 130), it is pointed out in Fig. 2 that striae which run in a direction of  $\langle -110 \rangle$  appear on a surface configuration when the surface (110) with the crystal plane orientation is subjected to alkaline etching. Surface configurations similar to the plane orientation of (110) also appear on surfaces of plane orientations that are inclined by a range between 0 and  $[[12\text{°}]]$   $12\text{°}$  in a direction of  $\langle -110 \rangle$  from (110) and that may be, for example, (551) inclined by  $[[8\text{°}]]$   $8\text{°}$ . Such surface configurations appear on a plane orientation remote from (110) by  $[[1\text{°}]]$   $1\text{°}$  in a direction  $\langle -110 \rangle$ . In addition, it is possible to select crystal plane orientations which show a surface roughness behavior similar to (110) illustrated in Fig. 2.

Please replace the last paragraph on page 41 through page 42, line 6, with the following new paragraph:

According to the report of T. Sato et al contributed to Phys. Rev., B4, 1950 (1971), it is possible to know about a plane that has a carrier electron mobility similar to (110) plane.

Therefore, when electrons are caused to flow in a direction of  $\langle -110 \rangle$ , similar electron mobility behaviors can be obtained even by using planes, such as (331), (221), (332), (111), that are off by an angle between 0 and 35 in a direction  $\langle -110 \rangle$ . In addition, behavior similar to (110) plane can be also attained even by using planes, such as (320) plane that are off by an angle between 0 and ~~[[120]]~~ 12° in a direction  $\langle -110 \rangle$ . Thus, when the above-mentioned planes and their neighboring planes may be selected instead of (110) plane, similar carrier mobility can be obtained.

Please replace the second paragraph starting at page 52, line 4, with the following new paragraph:

When the first through the fifth steps were finished with no high frequency vibration provided in the fifth step, the contact angle was measured by dripping a water drop on the silicon surface and was equal to ~~[[76.40]]~~ 76.4°. However, when the first through the fifth steps were finished with the high frequency vibration provided in the fifth step, the contact angle was equal to ~~[[85.00]]~~ 85.0°. The results show that the high frequency vibration is effective to remove the impurity from the silicon surface and to terminate the silicon surface by hydrogen or deuterium.